

# Construction Resources



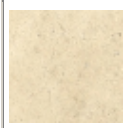
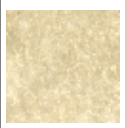


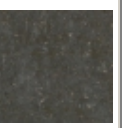

## TIERRAFINO TECHNICAL SHEET T6

### TIERRAFINO STONE - Waterproof shiny lime-based plaster

**Uses** *Tierrafino Stone* is an attractive waterproof shiny lime-based plaster for interior and exterior use. Its strength and marble-like appearance make it ideal for bathrooms, wet-rooms, fireplaces, table-tops, stairways, pillars and other ornamental uses, even floors. This beautiful finish follows the traditional Moroccan "Tadelakt" process: the unfinished plaster coat is polished with a semi-precious stone, rubbing Tadelakt soap into the surface. *Tierrafino Soap* is based on pure olive oil. This adds shine and waterproofs the surface. *Tierrafino Stone* may be applied to floors, but can be vulnerable to scratching. It should be used only in areas where traffic is barefoot or in soft shoes.

**Properties** *Tierrafino Stone* is hardwearing and waterproof. It is supplied as a dry powder and may be coloured with pigments.

**Colours** *Tierrafino Stone* is available in Delphi White to which pigments may be added. There are 5 other colours available: Roman Ochre, Nassau Orange, Djenné Red, Iquitos Green and Gomera Grey. As *Tierrafino Stone* is a natural product, small variations in colour may occur.

Delphi White	Iquitos Green	Djenné Red	Roman Ochre	Gomera Grey	Nassau Orange
					

(Please note: this chart is for illustration purposes only and does not constitute accurate colour reproduction)

Use only lime- and cement-resistant fresco pigments up to a maximum of 10% of dry mass (i.e. 90% Delphi White/10% pigment). A minimum of pigments should be used on floors (1-2%). Please note that pigments have differing influences on the behaviour of *Tierrafino Stone*: before starting work it is always advisable to work up a sample area.

**Coverage** 5kg *Tierrafino Stone* covers an area of approximately 1m<sup>2</sup> at a thickness of 5mm. A 12.5kg container will cover approximately 2.5m<sup>2</sup>. *Tierrafino Stone Soap* covers approx. 125m<sup>2</sup> or 5 coats of 25m<sup>2</sup> per 500g tub.

**Conditions** Air and surface temperature of the area to be treated should not be below 5°C. Keep doors and windows closed during and after application and prevent any heat sources (heaters, lights and direct sunlight) from drying the material out too quickly. Substrates should not absorb water too quickly. Strongly-absorbent surfaces should be thoroughly moistened before application. (They can also be treated with *Tierrafino Fix*).

**Tools** Plasterer's tub; mixer; metal trowel; plastic trowel; wooden float; decorator's sponge; polishing stone (see below); large brush; polishing cloth; various plastic materials (such as bags).  
**Polishing stone:** This should be ideally a semi-precious stone such as agate. It must have a hardness of at least 7/10; the harder the better. The stone must lie comfortably in the hand and have an almost flat surface (slightly rounded) to polish with. Basalt and granite are also suitable; they can be worked into an oval shape with rounded edges. It is possible to find good stones in mineral and fossil shops or even on riverbeds.

**Application** The application of *Tierrafino Stone* is difficult and timing is very important. It is recommended to attend a course to fully understand the technique. **Construction Resources** hold occasional short courses in conjunction with *Tierrafino*. See [www.ecoconstruct.com](http://www.ecoconstruct.com) or call 020 72321181 for further details.

**1. Add water:** Add 5 litres water to a 12.5kg bucket of *Tierrafino Stone* and close lid. Do not stir. Allow to rest for 24-72 hours. If the sides of the container feel warm to the touch, the chemical reaction is still occurring and up to 1 litre more water should be added. On re-opening there will be an apparently dry mass. Add a little more water and stir well to make a smooth paste.

**2. Moisten substrate:** All substrates, absorbent or not, should **always** be moistened prior to application. This is to provide good contact between the surface and the *Tierrafino Stone*. The dryer the substrate, the more it should be moistened. Freshly-applied substrates still contain enough water to allow enough time to achieve a good finish.

**3. Plaster/Render:** Apply the *Tierrafino Stone* onto the surface at a thickness of 4-5mm. Allow the plaster to dry out and stiffen, so that only the top 1-2mm is still workable.

**4. Shape:** Flatten the surface or model the shape of your piece by making circular movements with a wet wooden float. Different shapes of float may be required to create different 3-dimensional objects. To refine the piece wait a short time and float again.

**5. Smoothen surface** with a metal or plastic trowel. Using more or less pressure will either bring finer lime particles to the surface to create a variety of effects or will make a very smooth surface.

**6. Additional effects:** Before the plaster has fully dried out (in the "wet" phase), it is possible to make fine grooves in the surface by polishing with a stone to create attractive movement in the surface. The grooves will be erased to a greater or lesser extent depending on the length of time allowed before polishing with a plastic trowel. It is also possible to finish the piece solely with a stone.

**7. 'Scrafito':** Before a wall or piece has been treated with soapwater, an incised design or 'Scrafito' may be made by scratching the surface after polishing. The scratched areas are waterproof when treated with enough soapwater. With polishing, these areas also become stronger.

**8. Polish with soapwater:** The finished *Tierrafino Stone* should be allowed to rest from 2 to 24 hours to be dry enough for polishing, depending on drying speed. (In extreme cases it may be more than 24 hours). Then polish using a mix of 15 parts water and 1 part *Tierrafino Soap*. If polishing with soapwater is done too soon the surface may be roughened up again by the stone. Apply soapwater to the wall with a large brush. (Do not allow trickles to run down the surface; if this happens quickly wipe away with a soft dry cloth). Make small circular movements with the stone, making sure there is enough soapwater on the surface for the stone to glide across. After polishing with the stone, put a sock into a thin plastic bag and rub over the surface with circular movements. The lime content in the *Tierrafino Stone* reacts with the soapwater and renders the finish waterproof.

**9. Further Polishing:** As long as the *Tierrafino Stone* remains visibly wet it is possible to compress the lime slightly by pressing; using the stone and soapwater. Bathrooms and other wet areas require further applications of soapwater; 5 coats are recommended. After 6 weeks; apply soapwater again with a soft cloth, and rub in until the wall is dry again.

**Repairs** The area to be repaired should first be thoroughly cleaned. The *Tierrafino Stone* can then be reapplied and polished as before. Small repair-marks may remain visible, which can add a certain rustic charm to the finish.

**Leftovers:** Once water has been added, *Tierrafino Stone* is perishable and may be used for about 2 months, if kept in a well-sealed container. The hydrated lime will set slightly in the container. By adding a little water it can be broken down again and stirred back into a paste.

**Drying Time** This is dependent on air temperature, humidity, and the absorption of the substrate; the finished *Tierrafino Stone* will take from 2 to 24 hours to be dry enough for polishing. After approximately 1 week the final colour can be seen. After approx. 6 months the finish will be fully hardened. The walls of a shower cabinet can be used after 1 week; shower floors after 4 weeks.

**Maintenance** Do not clean with aggressive cleansers. Instead use *Tierrafino Soap*. This will not only keep the finish clean but will also maintain the waterproofing.

- Substrate** All suitable substrates for *Tierrafino Stone* have the same criteria:
- They must act as a good mechanical key. *Tierrafino Stone* sets mechanically as it contains no glue. This means that the surface of the substrate must be rough, with particles sticking out and with small cavities (1 - 4 mm).
  - They should not absorb water too quickly. Strongly-absorbent surfaces should be thoroughly moistened before applying *Tierrafino Stone*. They can also be treated with *Tierrafino Fix*. (See *Tierrafino Fix* sheet for details and safety advice).
  - They must not be continually wet.
  - They should enable *Tierrafino Stone* not to dry out too quickly. One of the properties of lime is that it gains strength when it dries out slowly. Keep doors and windows closed during and after application, and prevent any heat sources such as heaters, lights and direct sunlight from drying the lime out too quickly.
  - They should not warp when they come into contact with the water contained in the plaster. This is to avoid structural cracks.
  - They must be stable: any shrinkage or expansion of the background can cause cracks in the surface.
  - All substrates must be clean, dust- and grease-free before any new layer (*Tierrafino Stone*, concrete or tile glue) is applied. If necessary, ammonia should be used to remove any grease.

### **Preparation of Different Substrates**

***Tierrafino Base Clay Plaster:*** This is very suitable as a substrate, but only in dry conditions (i.e. not bathrooms or showers).

The surface of the plaster must be left rough. Should the Base Clay Plaster absorb water too quickly; seal the surface with *Tierrafino Fix*. (See *Tierrafino Fix* sheet for details and safety advice).

***Brick Walls:*** These are an ideal substrate. Brick walls should be prepared by plastering on a concrete mix (1 part cement, 1 part masonry sand and 1 part 4mm crushed gravel). Make this layer at least 8mm thick; leaving the surface of the concrete rough. Allow to dry for at least 24 hours before applying *Tierrafino Stone*. Begin application when the concrete is hard, but not fully dried out. The surface will gain strength as the concrete and *Tierrafino Stone* dry out together.

***Concrete:*** This is very suitable for *Tierrafino Stone* because of its rigidity. Very smooth concrete walls: First apply a thin layer of tile glue onto the concrete and roughen this to create a good mechanical key. Then, after sufficient drying time, apply a concrete mix (as Brick Walls above) at least 8 mm thick; again leaving the surface rough. Coarse concrete walls: these need only be treated with the concrete mix as above.

Allow to dry for at least 24 hours before applying *Tierrafino Stone*. Begin application when the concrete is hard, but not fully dried out. The surface will gain strength as the concrete and *Tierrafino Stone* dry out together.

***Lime Plasters:*** *Tierrafino Stone* can be applied onto fresh lime plaster after 24 hours drying time. Leave the plastered lime rough for a good mechanical key.

***Plasterboard:*** This is not an ideal substrate as boards are very flexible. Stick joint tape onto joints and fill with joint filler. Apply *Tierrafino Contact* primer with a brush. As a non-flexible structure is required, it is advisable to then apply a concrete layer 20mm thick (Concrete mix as Brick Walls above), in which a metal mesh can be placed. Fine chicken wire of approx.10mm is suitable. Attach the metal mesh every 100mm with *Tierrafino Contact* covered plasterboard on the joints (through the plasterboard into the structure below). Then "throw" a concrete mix onto the mesh, making sure there is good adhesion between the glue and the concrete. Apply the concrete in stages as 20mm cannot be applied at once; and leave each consecutive layer rough to stiffen. The final layer must also be left rough to give a good mechanical key. Begin application when the concrete is hard, but not fully dried out. The surface will gain strength as the concrete and *Tierrafino Stone* dry out together.

***Tiles:*** Tiled walls are also not an ideal substrate as tiles have no absorption and in most cases it is best to remove all tiles.

If working onto tiles: first clean tiles with ammonia. Apply "tile-to-tile" glue (a glue with good adhesion on porcelain) and spread out with a 4mm glue comb; then apply a concrete mix (as Brick Walls above) in a layer at least 8mm thick, leaving the surface rough. Begin application when the concrete is hard, but not fully dried out. The surface will gain strength as the concrete and *Tierrafino Stone* dry out together.

***Wood:*** Wooden structures are also not ideal substrates. They must be covered with plasterboard, and then treated as for plasterboard above.

**Time** *Tierrafino Stone* is a labour-intensive material. Allow approximately 4m<sup>2</sup> per day per operative.

**Ingredients** Lime

**Safety** When mixing protect eyes and hands with gloves and goggles. As a lime-based product, *Tierrafino Stone* will burn on the skin and especially in the eyes. If in contact with eyes, wash well with water. With prolonged irritation please visit your doctor. Keep out of reach of children.

**Storage** **Dry:** keep closed in the original container in a dry place. *Tierrafino Stone* may be kept for up to 2 years this way. **Wet:** once water has been added, *Tierrafino Stone* is perishable, and usable for about 2 months, provided it is kept in a well-sealed container. Store above 5°C.

**Disposal** As with regular building materials. Avoid contact with the eyes. Keep out of the reach of children and animals. Do not throw any waste down the drains; always try to dispose of waste at a registered disposal facility.

### **SPECIAL NOTE**

**Tierrafino Stone is a specialist plaster applied using techniques that differ slightly from those employed for conventional gypsum. Therefore it is essential these instructions are passed on to the applicator. Failure to do so could result in poor product performance for which Construction Resources cannot be held responsible.**

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